

RESPONSE UNDER 37 C.F.R. §1.111  
USSN: 08/898,853

Specifically, in the Office Action of September 28, 2001, claims 13-19 stand rejected under 35 U.S.C. §112, first paragraph. Although the basis for this rejection as set forth in the Office Action includes four separate reasons concerning claims 13-19, the Examiners confirmed in the interview that the only remaining issue is that with respect to claim 13 -- whether the present application provides support for claim 13 which recites a core including three layers and a cover. All other issues concerning claims 14-16 and 18 have been resolved.

Specifically, claim 13 of the present application is directed to a core having three layers and a cover of a single layer. The Examiner contends that the claim is inconsistent with the disclosure that requires a cover of two layers and a core of two layers.

Applicant respectfully submits that support is found in the present application. Claim 13 does not define a three piece ball or a five piece ball where a layer is being removed or a layer is being added. Instead, claim 13 is directed to a four piece golf ball which is disclosed in the present application.

The issue is merely one of characterizing one of the inner layers (i.e., the inner cover layer 15 in the present application) as being part of the cover or core. In the present application, for example, the third layer from the core is considered part of the cover, but in U.S. Patent No. 5,743,816 to Ohsumi et al., the third layer from the core is considered part of the core. Clearly, in each instance, the positioning of the third layers are identical; that is, the layer in dispute is third from the inside and even the composition of the layers are nearly the same. Here, it is merely a matter of nomenclature as to whether one considers the third layer as part of core or the cover.

Accordingly, Applicant respectfully traverses the rejection of the claims under §112, first paragraph, for at least the following reasons. In addition, Applicant submits the Declaration of

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Larry C. Cadorniga in support thereof. Mr. Cadorniga has over 20 years of experience in the field of golf ball design.

First, the layer 12c in the Ohsumi patent and layer 15 of the present application, irrespective of what label is used to describe these layers, are substantially identical with respect to the limitations of claim 13. In both the Ohsumi patent and in the present application, these inner layers are third from the inside. Moreover, Ohsumi (at col. 2, line 51; see also Example 5 of Table 1) teaches that this layer may be made with an ionomer resin and/or a thermoplastic elastomer. The present application also provides that this layer may be made with ionomer resin (page 6: 26 - 29). In addition, both Ohsumi and the present application include embodiments wherein the shore D value of the third layer is less than the shore D value of the second layer from the inner core. Thus, this third layer from the most inner layer of the golf ball has substantially identical characteristics in Ohsumi and the present application.

The Examiner also raises the issue as to comments made by the Applicant in Paper No. 6 on pages 4-6, concerning the invention as defined in claims 1-12 of the present application and a patent to Higuchi (U.S. Patent No. 5,702,311). Applicant respectfully submits that the statements set forth in Paper No. 6 and the following Office Actions including the response by the Patent Office demonstrate that Applicant's position now is not "at odds" with the prior sequence of events. In fact, Applicant's position now is entirely consistent with the Patent Office's prior position. In addition, this sequence of events includes the prior position taken by the Patent Office that there is no distinction between an immediate layer in terms of calling it a portion of the core or a portion of the cover.

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Specifically, the Examiner refers to the arguments made by Applicant in prior Paper No. 6, which was submitted October 28, 1998.

Following that submission, however, the Examiner issued a further action deeming the submission on October 28, 1998 (Paper No. 6) as not been fully responsive. The Examiner requested additional argument regarding the Higuchi '311 patent, and accordingly Applicant provided further response on January 4, 1999.

Next, the Examiner issued an Office Action dated February 23, 1999, responding to the arguments submitted by the Applicant on October 28, 1998 (Paper No. 6) and January 4, 1999. In this Office Action, the Examiner maintained the rejection of the claims based on Higuchi '311. The Examiner stated in particular that the Higuchi '311 patent describes a golf ball including four components. The Examiner then described each of those four components, making reference to elements 1, 2, 2b, and 3. On page 3 of the same Office Action, the Examiner stated that reference element 2b (see Fig. 2 of Higuchi '311) inherently is as much a cover element as Applicant's layer 15, as evidence simply from a comparison of the drawings.

The Examiner thus rejected all arguments submitted by the Applicant including those arguments in Paper No. 6 and maintained that there was no distinction in the immediate layers in terms of it being part of a cover or core. Thus, at this time, the position taken by the Patent Office was that it did not matter whether the inner layer was called a cover or core, but what did matter was the positioning the inner layer relative to other layers of the ball.

Applicant's position now and its argument with respect to claim 13 and Ohsumi are entirely consistent with the prior position taken by the Patent Office -- which was that it made no distinction whether the inner layer was described in a prior art reference as being part of the

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cover or core, but what was important was a position in the overall structure of the ball. Furthermore, this sequence of events shows that the Patent Office is now taking an inconsistent position from its prior position. Applicant is merely conforming its arguments to prior positions taken by the Patent Office.<sup>1</sup>

Lastly, Applicant submits herewith the Declaration of Larry C. Cadorniga, who has over 20 years of experience in the field of golf ball design. (See, Decl. at ¶3.) As set forth in the Declaration, Mr. Cadorniga confirms that there is no standard definition used in the industry to determine what constitutes a core or a cover. (Decl. at ¶6.) He recognizes that in a two piece ball it is easy to determine the cover and core, but in three or four piece golf balls, it is sometimes not clear how to characterize an inner layer as being part of the cover or core. (Decl. at ¶¶ 6-7.)

Mr. Cadorniga points out general guidelines that can be used to determine whether an inner layer is part of the cover or core. For example, the composition of the inner layer and the diameter of the inner layers can sometimes be used to determine whether an inner layer is part of a cover or core. (Decl. at ¶¶ 8-12.)

Lastly, Mr. Cadorniga has reviewed both the present application and the Ohsumi patent. In his opinion, he believes that the layer 12c in the Ohsumi patent, especially in Example 5 of Table 1, is properly called a cover, not a core, and that Ohsumi has incorrectly labeled this layer based on conventional usage of the terms cover and core. (Decl. at ¶¶ 13 -15.)

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<sup>1</sup> The Examiner is also referred to patent application Serial No. 09/377,991, where the Examiner takes the position that (1) a "surrounding layer" in a prior art reference was the same as an "enclosure layer" in the patent application; and (2) an "inner cover layer" in the prior art reference is the same as an "intermediate layer" in the patent application.

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For all of the foregoing reasons, Applicant respectfully submits that the present application provides the support required for claims 13-19 of the present application. It is therefore requested that the rejection based on §112, first paragraph, be withdrawn. It is further requested that the application be passed on to the Board of Patent Appeals and Interferences to proceed with Applicant's request for interference.

Should any other issues remain, the Examiner is respectfully requested to contact the undersigned attorney at the local telephone exchange listed below.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,



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Date: December 21, 2001



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**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

Hisashi YAMAGISHI, et al.

Application No.: 08/898,853

Group Art Unit: 3711

Confirmation No.: Unassigned

Examiner: Raeann Gorden

Filed: July 25, 1997

For: MULTI-PIECE SOLID GOLF BALL

RECEIVED  
DEC 28 2001  
TC 3730 MAIL ROOM

**Declaration of Larry C. Cadorniga**

I, Larry C. Cadorniga, hereby declare and aver as follows:

1. I reside at 4 Mill Creek Road, Piedmont, South Carolina. I am fully competent to testify regarding the subject matter of this Declaration and have personal knowledge of the facts set forth herein.
2. I took up Chemical Engineer studies at University of Sto. Tomas in Manila Philippines. Other courses taken in the rubber field technology, management, and at the Philips Cross Quality College in Atlanta, Georgia USA.
3. I have extensive knowledge and experience in the field of golf, including areas involving the design, development, and manufacture of golf equipment such as golf balls and golf clubs. I have worked in this field for over 20 years. I also have received several U.S. patents relating to golf ball design. Attached hereto as Exhibit 1 is a copy of my curriculum vitae.

4. I have reviewed the above-referenced patent application Serial No. 09/898,853 to Yamagishi et al. (herein "the Yamagishi application"), including the disclosure, figures, and

correspondence between the Patent Office and applicant. I have further reviewed U.S. Patent No. 5,743,816 to Ohsumi et al. ("the Ohsumi patent").

5. I have been asked to consider whether an inner layer of a multi-piece solid golf ball is properly characterized as a part of the core or cover. Based on my years of experience in the field of golf ball design and development, I submit the following statements.

6. I am not aware of any standard definition used in the industry to determine what constitutes a core or a cover. As discussed below, there are general guidelines that may be used to determine whether an inner layer is a part of the cover or core, but such guidelines may not always be followed. While the innermost layer (or inner sphere) of a multi-piece golf ball would typically be characterized as a "core," and the outer most layer of a multi-piece solid golf ball would typically be characterized as a "cover," it is not so clear how to characterize a layer or layers positioned between the inner most layer (or inner sphere) and the outermost layer.

7. For example, it is clear that for a two-piece solid golf ball, the innermost piece (or sphere) would constitute the core and the outer layer enclosing the inner piece would constitute the cover. It is less clear whether the inner layer(s) of a three-piece or four-piece solid golf ball would be considered part of the core or cover. In some instances, the inner layer(s) of a three-piece or four-piece solid golf balls are simply called intermediate layers or inner layers.

8. However, in my opinion, there are general guidelines that are used to determine whether an inner layer of a three piece or four piece solid golf ball forms a portion of the core or cover. One guideline used to determine whether an inner layer is a portion of the core or cover is to consider the type of material that the inner layer is composed of. A second guideline is to consider the diameter of the innermost layer (or sphere) and other inner layers.

9. Generally, a core is made of a rubber-based material and it is typically a thermoset material. For example, polybutadiene is a common type of rubber-based material now used as a core material. These types of material provide sufficient initial velocity. If an inner layer is made of a thermoset, rubber based material, then it may be referred to as part of the core.

10. On the other hand, a cover is typically made of a thermoplastic material. For example, ionomer resin based materials (such as Surlyn or Himilan) are generally used to form a cover. These materials are durable, enhance feel and yield a desired spin rate of a multi-piece solid golf ball, without substantially reducing the initial velocity. Thus, if an inner layer is made of a thermoplastic material, such as ionomer resin, that layer may be referred to as a part of the cover.

11. Generally, the diameter of a core including cores formed of one or more pieces is no greater than 1.58 inches (40.13 mm). Any layer of the ball formed outside of 1.58 inches will typically be referred to as a cover.

12. While these general guidelines may apply as to how one may characterize an inner layer of a three or four-piece solid golf ball, not everyone in the art follows the guidelines. In some cases, all layers but the outermost layer are referred to as a part of the core. In other cases, all layers but the innermost layer or sphere are referred to as a part of the cover. There is no standard definition that applies to state whether an inner layer is a part of the cover or core.

13. In reviewing the Yamagishi application, I note that layer 15 is referred to as an inner cover layer. The Yamagishi application refers to layer 15 as a part of the cover layer, and this nomenclature follows the general guidelines set forth above.

14. In reviewing the Ohsumi patent, it should be noted that all inner layers except for the outermost layer are referred to as the core. The outermost layer is referred to as the cover.

However, based on my experience, one of ordinary skill in the art would more likely refer to the layer 12c in Example 5 in Table 1 as part of the cover, not the core. I believe that Ohsumi patent refers to layer 12c in Example 5 incorrectly. In my opinion and following the general guidelines provided above, one of ordinary skill in the art of golf ball design would refer to layer 12c of Example 5 in Ohsumi patent as a cover and not as part of the core.

15. In addition, if I were to adopt the naming convention of the Ohsumi patent and apply that naming convention to the Yamagishi application, then the layer 15 of the ball disclosed in the Yamagishi application would be named a layer of the core, as opposed to the inner cover layer.

I, declare under the penalty of perjury that the foregoing is true and correct. Executed on December 20, 2001.

  
Larry C. Cadorniga

## LARRY C. CADORNIGA

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**OBJECTIVE:** Seeking a consulting position in Manufacturing, Research and Development, Quality Control, and Engineering where teamwork is key in accomplishing a common goal. Small projects welcome.

### ACCOMPLISHMENTS AND WORK BACKGROUND:

#### *DBA / LCC CONSULTING:*

August 1999      **R & D Consultant to Fantom Golf Limited, Korea/China**  
to present      Develop/design golf ball products. Re-engineered Nike golf ball for improved overall performance.

July 1995      **Gen. Manager/Consultant to Golf Tech Systems, Ltd., ROC**  
to present      Total project responsibility in starting a new facility to manufacture golf balls. Planned and scheduled equipment design/purchase, general floor layout, product process flow, installations, debug, maintenance, operating procedure, etc., while providing all the product design technology involving chemical compositions and aerodynamic design for optimum performances.

*Successfully developed and introduced the following golf ball products:*

Exacta Tour Evolution	Exacta Extra Spin
Exacta 432 Professional	Exacta 432 Control
Exacta 432 Performance	Exacta Distance
Bald Eagle Tour/Spin	LCC Tour Hi Performance
LCC Tour Control	Top Ace
Triton Tour/Performance	Triton TLB
Intech / Titech Titanium	Arnold Palmer (Europe)
(all are USGA approved conforming golf balls)	

April 1996      **R & D Consultant to Bobby Grace Golf Designs by Cobra**  
to July 1998      **Golf, Calsbad, Ca.**  
Developeddesigned elastomeric rubber compositions for golf putter face inserts to improve the general performances on feel and sound especially when a player is using a two piece construction golf ball.

*Awarded one patent: ( a second patent pending)*  
U S Patent no. 5,924,939 – “Golf Club Head with a Strike Face Having a First Insert With In a Second Insert”

Successfully developed and introduced several models of Bobby Grace putters with inserts with overwhelming acceptance. The insert is known as “HSM”:

Bobby Grace AN7 HSM	Bobby Grace Little Man HSM
Bobby Grace the 2200 HSM	Bobby Grace Pip Squeek HSM
Bobby Grace KBI HSM	Bobby Grace by Cobra Payday HSM

Bobby Grace Low Pro HSM Bobby Grace by Cobra Soft Lady

March 1989 DUNLOP SLAZENGER CORP. - Maxfli Golf, GREENVILLE SC

to July, 1995 *Positions Held: Director, Research and Development*

*Manager, Product Development*

Managed the Research and Development department consisting of professionals and non-exempt associates, totaling 14 people, in supporting the company strategies. Participated as company Board Member to plan, control, and guide the company in ultimately achieving its goals.

*Awarded Ten US Patents and Designs assigned to DSC:*

Patent no. 5338083 Golf Ball Design Patent no. D355943 Dimple Design

Patent no. 5321089 Golf Ball Cover Patent no. 550795 Foamed Club

Patent no. 5415937 Golf Ball Cover Patent no. 5580350 Core Cpd.

Patent no. 5470076 Dimple Pattern Patent no. 5538794 Golf Ball Cover

Patent no. 5465969 Rubber Cpd. Patent no. 5497996 Golf Balls

*Successfully developed, introduced, manufactured following golf equipment:*

Maxfli CD golf ball Maxfli MD Golf balls

Maxfli MD(variable speed) Maxfli HT Tour Balata golf ball

Maxfli HT Hi-Spin golf ball Maxfli VHL Golf club set

Dunlop DDHIII golf ball Dunlop DDH IV golf ball

Dunlop DDH Distance Dunlop DDH Accuracy golf ball

Nov. 1986 Acushnet Company / Titleist Golf Div., Fairhaven, MA

to Mar. 1989 *Position Held: Manager of Product Engineering*

Managed the product engineering team consisting of professionals and non-exempt employees, totaling 8 people, in supporting company goals in new product development.

*Awarded two US Patents assigned to Acushnet Co.*

Patent no. 5020803 Golf Ball Patent no. 4995613 Rubber Composition

*Successfully developed, introduced, manufactured following golf balls:*

Titleist Tour Balata Pinnacle Gold

May 1980 MacGregor Golf Company, Albany Georgia

to Nov. 1986 *Positions Held: Director, Golf Ball Operations*

*Manager, Golf Ball Operations*

*Senior Chemist, R &D*

Managed golf ball operations, consisting of 60 personnel, producing about 500,000 dozen golf balls annually, while directing R&D efforts, as well.

*Awarded two US Patents assigned to MacGregor*

Patent no. 4836552 Short (Cayman) Golf Ball

Patent no. 4830116 Method of Making the Cayman Golf Ball

*Successfully developed, introduced, manufactured following golf products:*

MacGregor Tourney	MacGregor MT	Nicklaus D+D
Nicklaus DC	Muirfield Balata	Cayman Golf

**Aug. 1976      Wilson Sporting Goods, River Grove, Illinois**

**to May 1980      Positions Held: Manufacturing Manager**  
*Manufacturing Supervisor*  
*Rubber Technologist - R&D*

Instrumental in starting up a tennis and racquetball manufacturing plant, along with four other key personnel. The factory successfully produced excellent products accepted for US Open play and replaced all other tennis ball sourced by Wilson. Developed rubber core compositions for golf balls and rubber compounds for tennis and racquetballs.

**Feb. 1968      B. F. Goodrich Tire and Rubber Co., Manila, Philippines,**  
**to Aug. 1976      Bearcat Tire Company and Salisbury Rubber Co., Chicago, Ill. Positions**

*Held: Rubber Chemist*

Developed rubber compositions and performed chemical tests and analysis.